



SEQUENCE LISTING

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Sun, Wei

<120> T Cell Receptor CDR3 Sequence and Methods for
Detecting and Treating Rheumatoid Arthritis

<130> D6622

<140> US 10/612,468

<141> 2003-07-02

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<223> part of the complementary determining region-3 (CDR3)
in the V(16 family (BV16 gene) of T cell receptors
(TCR) in patients with rheumatoid arthritis (RA)

<400> 1
agccaagctg acgggaccct t 21

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(CDR3) in the V(14 family (BV14 gene) of TCR in
patients with RA

<400> 2
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<400> 3
Ser Gln Ala Asp Gly Thr His
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region V(14 of T cell receptors

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Met Gly Pro Gln Leu Leu Gly Tyr Val Val Leu Cys Leu Leu Gly
5 10 15
Ala Gly Pro Leu Glu Ala Gln Val Thr Gln Asn Pro Arg Tyr Leu
20 25 30
Ile Thr Val Thr Gly Lys Lys Leu Thr Val Thr Cys Ser Gln Asn
35 40 45
Met Asn His Glu Tyr Met Ser Trp Tyr Arg Gln Asp Pro Gly Leu
50 55 60
Gly Leu Arg Gln Ile Tyr Tyr Ser Met Asn Val Glu Val Thr Asp
65 70 75
Lys Gly Asp Val Pro Glu Gly Tyr Lys Val Ser Arg Lys Glu Lys
80 85 90
Arg Asn Phe Pro Leu Ile Leu Glu Ser Pro Ser Pro Asn Gln Thr
95 100 105
Ser Leu Tyr Phe Cys Ala Ser Ser
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Ile Glu Ala Gly Val Thr Gln Phe Pro Ser His Ser Val Ile Glu
5 10 15
Lys Gly Gln Thr Val Thr Leu Arg Cys Asp Pro Ile Ser Gly His
20 25 30
Asp Asn Leu Tyr Trp Tyr Arg Arg Val Met Gly Lys Glu Ile Lys
35 40 45
Phe Leu Leu His Phe Val Lys Glu Ser Lys Gln Asp Glu Ser Gly
50 55 60
Met Pro Asn Asn Arg Phe Leu Ala Glu Arg Thr Gly Gly Thr Tyr
65 70 75
Ser Thr Leu Lys Val Gln Pro Ala Glu Leu Glu Asp Ser Gly Val
80 85 90
Tyr Phe Cys Ala Ser Ser
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<210> 8
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aagcacctga tcacagcaac t 21

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<210> 10
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ggtttatctgt aagagtggaa cct 23

<210> 11
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tcgagatatc tagtcaaaag gacg 24

<210> 13
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ggtgctggcg gactccagaa t 21

<210> 14
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<210> 15
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<210> 16

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<212> DNA

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<210> 17

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<223> reverse primer specific for TCR BV5 used in real-time PCR analysis

<400> 17

agcaccaagg cgctcacatt ca 22

<210> 18

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catggaaatg acaaataaga agtct 25

<210> 21
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<210> 22
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gagtccctgg gttctgaggg c . 21

<210> 24
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<400> 24
ccaaaatacc tggcacaca g . 21

<210> 25
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<400> 25
ccagggatt gatgtgaaga tt . 22

<210> 26
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<400> 26
acctagactt ctggtaaaag ca 22

<210> 27
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<400> 27
ggactggatc tccaaaggta a 21

<210> 28
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<220>
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<223> forward primer specific for TCR BV11 used in real-time PCR analysis

<400> 28
ttataggac aggaaagaag atc 23

<210> 29
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PCR analysis

<400> 29
atgtgagggc ctggcagact c 21

<210> 30
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<212> DNA
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caagacacaa gatcacagag aca 23

<210> 31
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<400> 31
ggcagcagac tccagagtga g 21

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<400> 32
tgaagacagg acagagcatg aca 23

<210> 33
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<210> 34

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<223> forward primer specific for TCR BV14 used in real-time PCR analysis

<400> 34
acccaagata cctcatcaca gtg 23

<210> 35

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<400> 35
agaggtctgg ttggggctgg g 21

<210> 36

<211> 23

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<223> forward primer specific for TCR BV15 used in real-time PCR analysis

<400> 36

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<223>	reverse primer specific for TCR BV15 used in real-time		
PCR analysis			
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ggggatggca	gactctaggg	a	21
<210>	38		
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<223>	forward primer specific for TCR BV16 used in real-time		
PCR analysis			
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gttccccagc	cacagcgtaa	ta	22
<210>	39		
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PCR analysis			
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cagttctgca	ggctgcacct	t	21
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PCR analysis

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<210> 41
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PCR analysis

<400> 41
agctgtcggg ttctttggg c 21

<210> 42
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PCR analysis

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agacacacctgg tcaggaggag g 21

<210> 43
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<400> 43
tgccgaatct cctcgcacta c 21

<210> 44

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<400> 44
ccaggacatt tggtaaaagg aaaa 24

<210> 45
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cagtgcgtg tctcccggtt c 21

<210> 46
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<400> 46
gaccctggtg cagcctgtg 19

<210> 47
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<223> reverse primer specific for TCR BV21 used in real-time PCR analysis		
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<223> forward primer specific for TCR BV22 used in real-time PCR analysis		
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<210> 51		
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gtcctccagc tttgtggacc g 21

<210> 52
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<223> forward primer specific for TCR BV23 used in real-time PCR analysis

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aagagggaaa cagccactct g 21

<210> 53
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cagctccaag gagctcatgt t 21

<210> 54
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ccaagataacc aggttaccca gttt 24

<210> 55
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<220>
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<223> reverse primer specific for TCR BV24 used in real-time PCR analysis

<400> 55
caggcctggc gagcggatgt c 21

<210> 56
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<400> 56
aaaacatctt gtcagagggg aa 22

<210> 57
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<220>
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<210> 58
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PCR	analysis	
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<223>	reverse primer specific for TCR BC used in real-time	
PCR	analysis	
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<210>	60	
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<212>	DNA	
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<223>	BC primer used for run-off reactions	
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reactions		
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<210> 62
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<400> 62
actgtgagtc tggtgcccttg t 21

<210> 63
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acaacggta acttggtccc cgaa 24

<210> 64
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<220>
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<223> FAM (expand)-labeled BJ primer used for run-off reactions

<400> 64
ggtcctctac aacagtgagc caac 24

<210> 65
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<220>
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<223> FAM (expand)-labeled BJ primer used for run-off reactions

<400> 65
aagagagaga gctgggttcc actg 24

<210> 66
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<212> DNA
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<400> 66
ggagagtcga gttccatca 19

<210> 67
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tgtcacagtg agcctggtcc catt 24

<210> 68
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cctggcccgaa agaactgctc a 21

<210> 69
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<210> 70
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<210> 71
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tccccgcgcc gaagtactga a 21

<210> 72
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tcgagcacca ggagccgc		18
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<400> 73		
ctgctgccgg ccccgaaagt c		21
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tgaccgtgag cctggtgccc g		21
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<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patients		
<400> 75		
Tyr Phe Cys Ala Ser Ser Gln Asp Ser Gly Gly Gly Gly Glu Gln		
5 10 15		
Phe Phe Gly Pro Gly		
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<210> 76		
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 <223> CDR3 nucleic acid sequence of BV16 clonotype derived
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 <400> 76
 tatttctgtg ccagcagccca agatagcggg gggggaggtg agcagttctt 50
 cgggccagga 60

 <210> 77
 <211> 20
 <212> PRT
 <213> Homo sapiens

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 <223> CDR3 amino acid sequence of BV16 clonotype derived
 from ST specimen of RA patients

 <400> 77
 Tyr Phe Cys Ala Ser Ser Arg Leu Gly Gln Gly Tyr Asn Glu Gln
 15
 5 10
 Phe Phe Gly Pro Gly
 20

 <210> 78
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 <223> CDR3 nucleic acid sequence of BV16 clonotype derived
 from ST specimen of RA patients

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 tatttctgtg ccagcagccg actgggacag ggctacaatg agcagttctt 50
 cgggccagga 60

 <210> 79
 <211> 20
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<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 79
Tyr Phe Cys Ala Ser Ser Gln Asp Leu Asp Ser Tyr Asn Glu Gln
5 10 15
Phe Phe Gly Pro Gly
20

<210> 80
<211> 60
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from ST specimen of RA patients

<400> 80
tatttctgtg ccagcagcca agatctggac agctacaatg agcagttctt 50
cgggccagga 60

<210> 81
<211> 20
<212> PRT
<213> Homo sapiens

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 81
Tyr Phe Cys Ala Ser Ser Gln Gly Thr Ser Gly Ile Thr Glu Gln
5 10 15
Phe Phe Gly Pro Gly
20

<210> 82
<211> 60
<212> DNA
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<220> CDS
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<223> from ST specimen of RA patients

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cgggcccagga 60

<210> 83
<211> 20
<212> PRT
<213> Homo sapiens

<220>
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from ST specimen of RA patient

<400> 83
Tyr Phe Cys Ala Ser Ser Gln Leu Ala Gly Pro Tyr Asn Glu Gln
5 10 15
Phe Phe Gly Pro Gly
20

<210> 84
<211> 60
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from ST specimen of RA patients

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cgggcccagga 60

<210> 85
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from ST specimen of RA patient

<400> 85

Tyr Phe Cys Ala Ser Ser Leu Leu Gly Thr Val Ser Tyr Glu Gln
5 10 15
Phe Phe Gly Pro Gly
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<210> 86

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<212> DNA

<213> Artificial Sequence

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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 86

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cgggccaggc 60

<210> 87

<211> 20

<212> PRT

<213> Homo sapiens

<220>

<221> Domain

<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 87

Tyr Phe Cys Ala Ser Pro Leu Gly Thr Ala Leu Ser Tyr Glu Gln
5 10 15

Phe Phe Gly Pro Gly

20

<210> 88

<211> 60

<212> DNA

<213> Artificial Sequence

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<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

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cggggccggc 60

<210> 89
<211> 20
<212> PRT
<213> Homo sapiens

<220>
<221> Domain
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Phe Phe Gly Pro Gly
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<210> 90
<211> 60
<212> DNA
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<220>
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cggggccggc 60

<210> 91
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<220>
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Phe Phe Gly Pro Gly
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<210> 92
<211> 60
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from ST specimen of RA patients

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cgggcccggc 60

<210> 93
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from ST specimen of RA patient

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Phe Phe Gly Pro Gly
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<210> 94
<211> 60
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from ST specimen of RA patients

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cgggccccggc 60

<210> 95
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Phe Phe Gly Pro Gly 20

<210> 96
<211> 60
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cgggccccggc 60

<210> 97
<211> 20
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Phe Phe Gly Pro Gly
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<210> 98
<211> 60
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from ST specimen of RA patients

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cggggccgggc 60

<210> 99
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from ST specimen of RA patient

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Gly Gln Gly

<210> 100
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from ST specimen of RA patients

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<210> 101
<211> 18

<212> PRT
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<220>
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<210> 102
<211> 54
<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

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<210> 103
<211> 18
<212> PRT
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<220>
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5 10 15
Gly Gln Gly

<210> 104
<211> 54
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from ST specimen of RA patients

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<210> 105
<211> 18
<212> PRT
<213> Homo sapiens

<220>
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from ST specimen of RA patient

<400> 105
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5 10 15
Gly Gln Gly

<210> 106
<211> 54
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from ST specimen of RA patients

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<210> 107
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from ST specimen of RA patient

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5 10 15
Gly Gln Gly

<210> 108
<211> 54
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from ST specimen of RA patients

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<210> 109
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from ST specimen of RA patient

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5 10 15
Gly Gln Gly

<210> 110
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from ST specimen of RA patients

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<210> 111
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5 10 15
Gly Gln Gly

<210> 112
<211> 54
<212> DNA
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<220>
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<210> 113
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<220>
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<400> 113
Tyr Phe Cys Ala Ser Ser Pro Thr Arg Asp Arg Gly Asn Glu Gln
5 10 15
Phe Phe Gly Pro Gly
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<210> 114
<211> 63
<212> DNA

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<220>

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 114

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cttcgggcca gga 63

<210> 115

<211> 22

<212> PRT

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<220>

<221> Domain

<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 115

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Glu Gln Phe Phe Gly Pro Gly
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<210> 116

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 116

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cttcgggcca gga 63

<210> 117

<211> 20

<212> PRT

<213> Homo sapiens

<220>
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<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 117
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5 10 15
Phe Phe Gly Pro Gly
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<210> 118
<211> 63
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<220>
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<400> 118
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cttcgggcca gga 63

<210> 119
<211> 21
<212> PRT
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<220>
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<400> 119
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5 10 15
Gln Phe Phe Gly Pro Gly
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<210> 120
<211> 60
<212> DNA
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<220>
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from ST specimen of RA patients

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cgggccagga
60

<210> 121
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<220>
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from ST specimen of RA patients

<400> 121
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5 10 15
Phe Phe Gly Pro Gly
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<210> 122
<211> 63
<212> DNA
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from ST specimen of RA patients

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cttcgggcca gga 63

<210> 123
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<220>
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from ST specimen of RA patients

<400> 123
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5 10 15
Gln Phe Phe Gly Pro Gly
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<210> 124
<211> 60
<212> DNA
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<220>
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from ST specimen of RA patients

<400> 124
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cgggccagga 60

<210> 125
<211> 19
<212> PRT
<213> Homo sapiens

<220>
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from ST specimen of RA patients

<400> 125
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5 10 15
Phe Gly Pro Gly

<210> 126
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

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<210> 127
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<400> 127
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Tyr Phe Gly Pro Gly
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<210> 128
<211> 60
<212> DNA
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cgggccagga 60

<210> 129
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Tyr Phe Gly Pro Gly
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<210> 130
<211> 60
<212> DNA
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from ST specimen of RA patients

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cgggccagga 60

<210> 131
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<212> PRT
<213> Homo sapiens

<220>
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from ST specimen of RA patients

<400> 131
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5 10 15
Tyr Phe Gly Pro Gly
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<210> 132
<211> 60
<212> DNA
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from ST specimen of RA patients

<400> 132
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<210> 133
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<220>
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<400> 133
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Tyr Phe Gly Pro Gly
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<210> 134
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<400> 134
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cgggccagga 60

<210> 135
<211> 20
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<213> Homo sapiens

<220>
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<400> 135
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Tyr Phe Gly Pro Gly
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<210> 136

<211> 60

<212> DNA

<213> Artificial Sequence

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 136

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cgggccagga 60

<210> 137

<211> 19

<212> PRT

<213> Homo sapiens

<220>

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<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 137

Tyr Phe Cys Ala Ser Ser Arg Asp Gly Val Ser Tyr Glu Gln Tyr
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Phe Gly Pro Gly

<210> 138

<211> 57

<212> DNA

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 138

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<210> 139

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<400> 139
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Phe Gly Pro Gly

<210> 140
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<210> 141
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<400> 141
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Tyr Phe Gly Pro Gly
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<210> 142
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<212> DNA
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cgggcccagga 60

<210> 143
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<212> PRT
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<220>
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<400> 143
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5 10 15
Tyr Phe Gly Pro Gly
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<210> 144
<211> 60
<212> DNA
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<220>
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<400> 144
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cgggcccagga 60

<210> 145
<211> 20
<212> PRT
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from ST specimen of RA patients

<400> 145
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5 10 15
Tyr Phe Gly Pro Gly
20

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from ST specimen of RA patients

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cgggccagga 60

<210> 147
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<220>
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from ST specimen of RA patients

<400> 147
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5 10 15
Tyr Phe Gly Pro Gly
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<210> 148
<211> 61
<212> DNA
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from ST specimen of RA patients

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tcgggccggg c 61

<210> 149
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from ST specimen of RA patients

<400> 149
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5 10 15
Tyr Phe Gly Pro Gly
20

<210> 150
<211> 60
<212> DNA
<213> Artificial Sequence

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from ST specimen of RA patients

<400> 150
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cgggccagga 60

<210> 151
<211> 19
<212> PRT
<213> Homo sapiens

<220>
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<223> CDR3 amino acid sequence of BV14 clonotype derived

from ST specimen of RA patients

<400> 151

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5 10 15
Leu Gly Ser Gly

<210> 152

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 152

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<210> 153

<211> 18

<212> PRT

<213> Homo sapiens

<220>

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<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 153

Tyr Phe Cys Ala Ser Ser Leu Ser Gln Glu Thr Glu Ala Phe Phe
5 10 15

Gly Gln Gly

<210> 154

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 154

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<210> 155
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<213> Homo sapiens

<220>
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<400> 155
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5 10 15
Phe Gly Ser Gly

<210> 156
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 156
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<210> 157
<211> 18
<212> PRT
<213> Homo sapiens

<220>
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<400> 157
Tyr Phe Cys Ala Ser Ser Leu Ser Gln Asn Thr Glu Ala Phe Phe
5 10 15
Gly Gln Gly

<210> 158
<211> 54
<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 158

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<210> 159

<211> 18

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<220>

<221> Domain

<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 159

Tyr Phe Cys Ala Ser Ser Pro Arg Val Asn Thr Glu Ala Phe Phe
5 10 15

Gly Gln Gly

<210> 160

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

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<210> 161

<211> 18

<212> PRT

<213> Homo sapiens

<220>

<221> Domain

<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 161
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5 10 15
Gly Gln Gly

<210> 162
<211> 53
<212> DNA
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from ST specimen of RA patients

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<210> 163
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from ST specimen of RA patients

<400> 163
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5 10 15
Gly Gln Gly

<210> 164
<211> 54
<212> DNA
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from ST specimen of RA patients

<400> 164
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<210> 165
<211> 18
<212> PRT
<213> Homo sapiens

<220>
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<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 165
Tyr Phe Cys Ala Ser Ser Ser Arg Gly Tyr Thr Glu Ala Phe Phe
5 10 15
Gly Gln Gly

<210> 166
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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from ST specimen of RA patients

<400> 166
tacttctgtg ccagcagttc cagggatac actgaagctt tctttggaca aggc 54

<210> 167
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